Customer No.: 31561
Application No.: 10/709,924
Docket No.:13366-US-PA

AMENDMENT

In The Claims:

Claim 1. (currently amended) A high-voltage metal-oxide-semiconductor (HV-MOS) device, comprising:

a substrate;

a gate dielectric layer on the substrate;

a gate on the gate dielectric layer;

a channel region in the substrate under the gate dielectric layer;

two doped regions as a source and a drain in the substrate beside the gate;

a field isolation layer between the gate and ~~at least one of the doped regions~~ the two doped regions;

a drift region in the substrate under the field isolation layer, connecting with the channel region and the at least one doped region; and

a modifying doped region in the substrate at periphery of the at least one doped region.

Claim 2. (currently amended) The HV-MOS device of claim 1, wherein ~~the field isolation layer is between the gate and the two doped regions, and~~ the modifying doped region is in the substrate at the peripheries of the two doped regions.

Claim 3. (original) The HV-MOS device of claim 1, wherein the drift region and the modifying doped region together completely surround the at least one doped region.

Claim 4. (original) The HV-MOS device of claim 1, wherein the field isolation layer comprises a field oxide (FOX) layer.

Claim 5. (original) The HV-MOS device of claim 1, wherein each doped region comprises a heavily doped contact region and a lightly doped grade region under the contact region.

Claim 6. (original) The HV-MOS device of claim 1, wherein a doping concentration of the drift region and the modifying doped region ranges from $5\times10^{15}/cm^3$ to $5\times10^{17}/cm^3$.

Claims 7-14 (cancelled)